

**Amendments to the Claims**

**The following listing of claims will replace all prior versions of claim listings in this application.**

**Please amend claims 58, 59, 61, 62 and 74-75 as indicated below.**

**Please cancel claims 60 and 72-73 without prejudice or disclaimer to the subject matter claimed therein.**

**Listing of the Claims**

**Claim 1 to 56. (Cancelled)**

**Claim 57 (Previously presented): A computer system comprising:**

**(a) a processor; and**

**(b) a computer readable storage medium storing executable instructions that, when executed by the processor, cause the processor to perform a plurality of steps, wherein the steps include:**

**(i) comparing an expression profile of a test sample from a subject to a reference expression profile, wherein the expression profile of the test sample comprises statistical measures of differential expression of two or more nucleic acid sequences selected from SEQ ID NO: 1 to 1124 in the test sample as compared to a control sample from a normal individual and the reference expression profile comprises statistical measures of differential expression of said two or more nucleic acid sequences in a individual diagnosed with benign prostatic hyperplasia (BPH) as compared to a normal individual; and**

**(ii) identifying the presence or absence of BPH in the subject, wherein differential expression of said two or more nucleic acid sequences in the test sample is indicative of BPH.**

**Claim 58 (Currently amended): The computer system of claim 70, wherein the database further comprises nucleotide sequence information for said nucleic acid sequences [molecules].**

**Claim 59 (Currently amended): The computer system of claim 57, further comprising records including information from an external database, which information correlates said nucleic acid sequences [molecules] to records in said external database.**

**Claim 60 (Cancelled)**

Claim 61 (Currently amended): The computer system of claim 58, wherein said database further comprises descriptive information about said nucleic acid sequences [~~molecules~~].

Claim 62 (Currently amended): The computer system of claim [57] 70, wherein said [~~expression profile of the test sample~~] database further comprises descriptive information from the subject.

Claim 63 (Previously presented): The computer system of claim 62, wherein said descriptive information is selected from the group consisting of subject age, disease status and treatment status.

Claim 64 (Previously presented): The computer system of claim 63, wherein said disease status information comprises prostate specific antigen (PSA) serum level values.

Claim 65 (Previously presented): The computer system of claim 63, wherein said disease status information comprises information related to disease progression.

**Claim 66-69 (Cancelled)**

Claim 70 (Previously presented): The computer system of claim 57, wherein the reference gene expression profile is part of a database.

Claim 71 (Previously presented): The computer system of claim 57, wherein the expression profile of the test sample comprises statistical measures of differential expression of 10 or more nucleic acid sequences selected from SEQ ID NO: 1 to 1124.

**Claims 72-73 (Cancelled)**

Claim 74 (Currently amended): The computer system of claim 57, wherein the expression profile of the test sample comprises statistical measures of differential expression of each of SEQ ID NO: 1 to 1124.

Claim 75 (Currently amended): A computer system comprising:

- (a) a processor; and
- (b) a computer readable storage medium storing executable instructions that, when executed by the processor, cause the processor to perform a plurality of steps, wherein the steps include:
  - (i) comparing an expression profile of a test sample from a subject to a reference expression profile, wherein the expression profile of the test sample comprises statistical measures of differential expression of [twenty] five or more nucleic acid sequences selected from SEQ ID NO: 1 to 1124 in the test sample as compared to a control sample from a normal individual and the reference expression profile comprises statistical measures of differential expression of said [twenty] five or more nucleic acid sequences in a individual diagnosed with benign prostatic hyperplasia (BPH) as compared to a normal individual; and
  - (ii) identifying the presence or absence of BPH in the subject, wherein differential expression of said [twenty] five or more nucleic acid sequences in the test sample is indicative of BPH.